

What is claimed is:

1. A pyrotechnic device comprising:
  - a) an igniter;
  - b) a firing energy storage module connected to said igniter;
  - and,
  - c) a constant current charging module connected to said storage module.
2. The device of claim 1, wherein said firing energy storage module is connected to said constant current charging module by a switch.
3. The device of claim 1, wherein said firing energy storage module is connected to said igniter by a switch.
4. The device of claim 1, wherein said firing energy storage module is a firing capacitor.
5. The device of claim 4, wherein said pyrotechnic device is an electronic detonator.
6. The device of claim 5, further comprising an ASIC containing said constant current module.
7. The device of claim 6, wherein said detonator is for use in a system of multiple detonators, and said constant current module is configured and/or programmed to limit the current

to said firing capacitor to below an amount that could cause excessive voltage sagging in said system.

8. The device of claim 7, wherein said constant current module is further configured and/or programmed to limit current to below an amount that could result in inadvertent firing of said igniter.
9. The device of claim 7, wherein said constant current module is further configured and/or programmed to activate in response to an arming command. .
10. A method of charging a pyrotechnic device comprising the following steps:
  - a) providing at least one pyrotechnic device with an igniter and a firing energy storage module; and
  - b) charging said firing energy storage module in preparation for firing of said device, wherein the current to said firing energy storage module is limited.
11. The method of claim 10, wherein said step of charging is a constant-current, rail-voltage limited charging process.
12. The method of claim 11, further comprising the step of establishing a system including multiple pyrotechnic devices each having an igniter and a firing energy storage

module, said system including a master device and a bus connecting said master device to said pyrotechnic devices.

13. The method of claim 12, wherein said system is an electronic blasting system, said master device is a blasting machine, said pyrotechnic devices are electronic detonators, and said firing energy storage modules are firing capacitors.
14. The method of claim 13, wherein each of said detonators includes a constant current charging module.
15. The method of claim 14, further comprising the step of issuing an arming command from said blasting machine, said constant current charging module configured and/or programmed to activate in response to said arming command.
16. The method of claim 15, wherein said firing capacitor is connected to said constant current charging module by a switch.
17. The method of claim 16, wherein said firing capacitor is connected to said igniter by a switch.
18. The method of claim 17, wherein said firing capacitors are charged in a staggered fashion.

19. A constant current charging module for use in an electronic detonator.
20. The constant current charging module of claim 19, wherein said module is configured and/or programmed to respond to an arming command issued from a blasting machine by charging a firing capacitor in the electronic detonator with a constant-current, rail-voltage limited process.